

An Empirical Study of Extreme Programming

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ABSTRACT

Extreme Programming (XP) is a drastic departure from the traditional software development processes in which a complete planning cycle usually proceeds any design and implementation work. We report empirical study results from two object-oriented systems, which were developed using a process similar to XP. In particular, we used two metrics^{3/4} System Design Instability (SDI) and Class Implementation Instability (CII) ^{3/4}to track the design evolution. We found that both systems experienced a significant increase in classes in the middle of the process. The new stories introduced at the beginning of each cycle may change existing design unpredictably. The CII metric seems to give good indication of project completeness.

Keywords: Extreme Programming, OO Metrics, OO Design evolution, OO implementation evolution.